

smaller mosaic. Whenever the user provides selection instructions to the second image processor 26 to select a view of a part of the full mosaic requiring different or additional images (or cable channels), then the second image processor 26 may simply notify the image distributor 24 and collect the needed images. Again, a new, smaller mosaic is formed from which the selected view V may be extracted. Further, if the bandwidth of the cable or information line is particularly limited, then a lower resolution of each of the required images may be requested and received by the second image processor 26. In the extreme version of this embodiment (where the second image processor 26 receives only the image information that it needs to provide selected view V to the user), the creation of the mosaic and the extraction of the selected view V effectively occurs before sending the view V over the cable or information line 30, so that the cable or information line 30 need only have sufficient bandwidth for the selected view (or the version of the selected view formatted for the display 20, 34).

[0036] Next in a more elaborate version of the present invention, it has been discussed that placing the mosaic camera 2 near the field of interest 16 (or object of interest 12) may result in adjacent cameras 4 having substantially different focal distances. Further, the field of view imaged by each camera 4 may include objects whose distances to the camera 4 vary widely. Thus, for any given focal distance (whether fixed or chosen automatically or manually), there may be many objects in the object section imaged by the camera 4 that are out of focus. The user may be interested in viewing such objects. To accommodate the user, there may be provided for each object section several cameras, each camera having a different focal distance, so that each object in the object section is in best focus with respect to one of the cameras 4. Thus, a plurality of mosaics may be created by the first image processor 22, corresponding to a plurality of focal distances. The interface 28 may include a retinal distance detector, such as a laser and reflector system, configured to measure a distance to the user's retina, or to measure a distance from the lens of the user's eye to the retina, or the like. Thus, based on this distance, the second image processor 26 may be able to determine at what focal distance the user's eye is attempting to focus. Based on this information, the correct mosaic may be chosen and the selected view V selected from that mosaic. To further illustrate, assume that in a given image there is imaged a football in the foreground and a football player in the background. Assume further that such an object section is imaged by two cameras, one focused on the foreground of that object section and the other focused on the background of that object section. The user attempts to look at the player in the background. In doing so, his eyes adjust and a distance between his eye lens and retina changes accordingly. The retinal distance detector measures this change, and chooses the mosaic corresponding to the backgrounds of the imaged object sections. The selected view V is then extracted from that background mosaic and displayed to the user via the display 20, 34. Of course, each object section in the object space may be imaged by a plurality of cameras 4, each camera 4 focused on different planes in that object space (i.e., each camera 4 having a different focal distance). The 3D version of the present invention may also be combined with this feature, thus providing to the user a 3D perspective of an object space, where the view can be changed by the

user moving his head, and where he can focus on virtually any object in the entire object space.

[0037] The present invention is not limited to the embodiments or examples given.

1. A method for producing a selectable view of an object space, comprising:

- a) dividing said object space into a plurality n of object sections to be imaged;
- b) providing at least n cameras, wherein said cameras are configured such that each object section is associated with at least one unique camera configured to image substantially only said object section; and
- c) imaging each of said object sections with said unique camera unique to said each of said object sections, so as to create at least one image of each object section,

wherein said images of said object sections are combined to create a substantially continuous composite mosaic of said object space,

wherein a view of a portion of said mosaic is selectably provided to a user based on selection instructions from said user, and

wherein at least one of said view, said mosaic, and said images of said object sections is sent to said user via an information network.

2. A method as in claim 1, wherein said view is provided to said viewer via a head-mounted display.

3. A method as in claim 2, wherein said view is selectable by said user based at least in part on a physical orientation of said head-mounted display.

4. A method as in claim 1, wherein at least two of said object sections are imaged at different focal distances.

5. A method as in claim 1, wherein said information network is a cable television network.

6. (Canceled)

7. A method as in claim 5, wherein n is at least 9.

8. (Canceled)

9. A method as in claim 7, where step c) comprises imaging each of said object sections with a refresh rate of at least 15 times per second, wherein said view is selectably provided to said user with a refresh rate of at least 15 times per second.

10. A method as in claim 9, wherein said object space comprises a field for a sporting event.

11. A method as in claim 10, wherein said view is provided to said viewer via a head-mounted display, wherein said view is selectable by said user based at least in part on a physical orientation of said head-mounted display.

12. (Canceled)

13. A method as in claim 1, wherein step b) comprises providing 2n cameras, wherein said cameras are configured such that each object section is associated with two unique cameras, spaced an approximate distance d apart, configured to image substantially only said object section,

wherein step c) comprises imaging each of said object sections with said two unique cameras, so as to create first and second images of each object section,

wherein said first images of said object sections are combined to create a first composite mosaic of said object space, and said second images of said object